

What is claimed is:

1. Apparatus for damping rotational vibrations in a power train comprising:
  - 5 a free-wheel clutch between a driving element and a driven element, the free-wheel clutch having  
first and second rings, each ring having axial front sides facing one another,  
each axial front side provided with clamping ramps that cooperate with clamping  
rollers positioned between the first and second rings,  
10 wherein the first ring is connected axially undisplaceable with one of the driving  
or driven elements and the second ring is connected axially displaceable with the other one of  
the driving or driven elements; and  
a spring element is positioned between the axially displaceable ring and an axial buttress  
to axially bias the axially displaceable ring.  
15
2. Apparatus according to claim 1, wherein the spring element is a helical compression spring.
3. Apparatus according to claim 1, wherein a friction ring is provided between the axially  
displaceable ring and the spring element.  
20
4. Apparatus according to claim 3, wherein a supporting ring is provided between the friction ring  
and the spring element.
5. Apparatus according to claim 1, wherein an abutment is provided between the axially  
25 displaceable ring and the buttress to limit the axial movement of the spring element.
6. Apparatus according to claim 5, wherein the abutment is an abutment ring provided radially  
inward or outward of the spring element.
- 30 7. Apparatus according to claim 1, further comprising at least one roller bearing positioned

between the driving and driven elements on at least one axial side of the free-wheel clutch.

8. Apparatus according to claim 7, wherein the at least one roller bearing is a deep groove ball bearing.

5

9. Apparatus according to claim 7, wherein the a roller bearing is provided between the spring element and the buttress.

10. Apparatus according to claim 1, wherein the clamping rollers are formed as clamping balls.

10

11. Apparatus according to claim 10, wherein the axial front sides are provided each with three clamping ramps, between which three clamping balls are provided.

12. Apparatus according to claim 1, wherein the axially undisplaceable ring is connected fixed against rotation with the driving element, and that the axially displaceable ring is connected with the driven element.

15

13. Apparatus according to claim 12, wherein the driving element is a pulley.

14. Apparatus according to claim 1, wherein the axially displaceable ring is connected fixed against rotation with its associated driving or driven element.

20

15. Apparatus according to claim 14, wherein the axially displaceable ring is connected fixed against rotation with its associated driving or driven element by means of an axially directed toothing.

25

16. Apparatus according to claim 1, wherein the apparatus is utilized in a traction mechanism drive connecting a reciprocating piston internal combustion engine and an additional unit.

17. Apparatus according to claim 16, wherein the driving element is a drive disc and the driven

30

element is an input shaft of the additional unit.

18. Apparatus according to claim 16, wherein the driving element is a crankshaft and the driven element is a driven element of the reciprocating piston internal combustion engine.